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ABSTRACT

The focus here is on learning by school-age children, assisted by the family and/or peers, and supported and managed by professional teachers. The author/educator, who specializes in researching paired learning, provides an outline of the essential concepts of peer-assisted and parent-assisted learning, followed by discussion of some specific practical evidence of its use in reading, writing, spelling, and thinking skills. (NKA)

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by Keith Topping

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SCRE Spotlights
From The Scottish Council for Research in Education
82

Peer- and Parent-Assisted Learning in Reading, Writing, Spelling and Thinking Skills

Keith Topping, Centre for Paired Learning,[1] University of Dundee

The focus here is on learning by school-age children, assisted by the family and/ or peers, and supported and managed by professional teachers. Keith Topping, who specialises in researching paired learning, provides an outline of the essential concepts of peer-assisted and parent-assisted learning, followed by discussion of some specific practical evidence of its use in reading, writing, spelling and thinking skills.

In previous centuries, traditional conceptions of teaching emphasised direct instruction – the transmission of information from the professional teacher to the learner. However, recent years have seen a vast increase in both the quantity and accessibility of information within and without schools. Irrespective of class size, social interaction between individual pupils and professional teachers will always be scarce. Consequently, the professional teacher increasingly works indirectly as a manager of effective learning – an arrangement which may be supported by peer- or parent-assisted learning.

▶ *PEER- AND PARENT-ASSISTED LEARNING*

Peer- and parent-assisted learning have some similarities, and a number of differences.

Peer-assisted Learning (PAL) can be defined as the acquisition of knowledge and skill through active helping and supporting among companions who are matched or equal in status. It involves people from similar social groupings, who are not professional teachers, helping each other to learn and learning themselves by so doing. The most common form of PAL, peer tutoring, is characterised by specific role-taking as tutor or tutee, a high focus on curriculum content and, usually, specific procedures for interaction, in which participants are trained. By contrast, in more general 'cooperative learning', typically the group participants are working in parallel toward some common goal, rather than primarily, specifically and consciously helping each other's learning.

It is clear that PAL is not a diluted and inferior substitute for direct professional teaching – it has quite different strengths and weaknesses, and to deploy it to maximum effect teachers need to be aware of these (Topping, 2001a).

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Some of the benefits of peer-assisted learning are shared by **parent-assisted learning**, especially one-to-one attention, increasing time on task and engagement with task – and extra practice. It is also individualised and interactive, with immediate support, modelling, monitoring and feedback. However, especially in the early years, most parents might be expected to be more 'expert' than their children (for example in reading), and the social and emotional tone and content of the parent-child relationship is very different from that of a peer relationship – praise and other forms of reinforcement might be even more salient and powerful in motivational terms. However, as children move up the school, parents are less likely to be 'expert' with more advanced educational content. This must be reflected in the way they are asked to encourage and prompt, rather than model.

In recent years, the notion of 'parental involvement in children's reading' has been replaced by the term 'family literacy', which implies greater emphasis on practices which enhance the literacy levels of the whole family now and in the future, for their own purposes, within their own context. This implies respecting the home culture and not merely seeking to export the school culture while at the same time carefully considering the cost/ benefit aspects of involvement as they might be perceived by potential participants. The social inclusion agenda has also gained ground (at least in the rhetoric), so there is now more emphasis on equal opportunities for involvement by all families in their own homes, rather than an elite selected group of parents acting as teacher helpers in school (Wolfendale & Topping, 1996).

Parents are now involved in mediating the learning of their children in a great many ways, in many curriculum areas, at various levels of complexity, before and during the years of schooling and beyond into lifelong learning –

and the benefits can be mutual and reciprocal for both members of the pair.[2]

What then are the implications for peer-assisted and parent-assisted work in different curriculum areas? This Spotlight (82) focuses on the areas of reading, writing, spelling and thinking skills; the companion Spotlight (83) focuses on maths, science and ICT.

▶ *READING*

In reading, the 'Paired Reading' method has long been well known. However, nomenclature has been a problem – the phrase 'Paired Reading' has such a warm, comfortable feel that some teachers have applied it loosely to almost anything that two people do together with a book. Of course, the effectiveness research only applies to 'proper' Paired Reading – the specific and structured technique (described in Topping, 1995, 2001b) – not to diluted variants. Indeed, in the USA, the need was felt to re-label 'proper' Paired Reading to try to avoid this kind of confusion – teachers there felt the new name 'Duolog Reading' was unusual enough to remain clearly identifiable.

In a recent review of the effectiveness of twenty interventions in reading, Paired Reading ranked as one of the most effective, surpassed only by one or two methods which seemed to have produced spectacular results, but which had only been evaluated with very small numbers of children (Brooks, Flanagan, Henkhuzens and Hutchison, 1998). By contrast, the Paired Reading (PR) method has now been widely disseminated across the world, and has been demonstrated to be effective with thousands of children in hundreds of schools. It has been the subject of reviews by Topping and Lindsay (1992) and Topping (1995, 2001b). There are many controlled studies demonstrating effectiveness. Much of the evaluation has been in terms of gains on norm-referenced tests of reading before and after the initial intensive period of involvement. The general picture in published studies is that Paired Readers progress at about 4.2 times 'normal' rates in reading accuracy on test during the initial period of commitment. Follow-up studies indicate that gains are sustained and do not 'wash out' over time.

Taking another approach to evaluation, the subjective views of tutors, tutees and teachers in all projects in one local authority were gathered by structured questionnaire (Topping and Whiteley, 1990). In a sample of over 1000 tutors, 70% considered their tutee was reading more accurately, more fluently and with better comprehension after PR. Greater confidence in reading was noted by 78%. Teachers reported generalised reading improvement in the classroom in a slightly smaller proportion of cases. Of a sample of 964 *tutees*, 95% felt that they were better at reading after PR and 92% liked reading more; 87% found it easy to learn to do, 83% liked doing it and 70% said they would go on doing it.

A recent national project (*Read On*) involved cross-age peer-tutoring in many primary schools using the Paired Reading technique. Pairings were typically of whole classes of P3 (6–7 years old) and P6 (10–11 years old) pupils. Pre/post reading test gains were substantially larger than normally expected, and larger in experimental groups than control groups. Overall, the least able tutees gained the most on test, and the least able tutors gained the most. Low ability tutors produced tutee gains at least equivalent to those produced by high ability tutors, and low ability tutors themselves gained more than high ability tutors. The relationship between reading gains and gender was also analysed. Overall, male tutors did better than female tutors in terms of their own test gains. So perhaps boys learn better by being tutors than by being tutored.

Social gains were also widely reported. Each participating teacher was asked to record their summary observations of child behaviour, commenting only on children in their class whose reading they knew before Paired Reading started, and only indicating change if they had observed it, it was significant, and it had definitely occurred since PR started. The response rate was 33 out of 34 possible (97% – one teacher had left her school). For behaviour in the classroom during Paired Reading, very few teachers had not observed a positive shift in the majority of their children. Regarding generalisation of positive effects to other subject areas and outside the classroom, the effects were not quite as strong (as would be expected), but were still very positive. The improvement in motivation was particularly striking. Also worthy of note was the improvement in pupils' ability to relate to each other – and that their social competence improved both during PR and beyond it.

Paired Reading is now widely used in developed countries (eg within the USA in volunteer tutoring schemes) and also in countries with great development needs (eg within family literacy programmes in the townships of South Africa and in provincial parts of Brazil).

▶ *THINKING*

'There is more to be learned from the unexpected questions of children than the discourses of men.' (John Locke)

The extension of Paired Reading into higher order comprehension and thinking skills was also part of the *Read On* project. 'Paired Reading and Thinking' usually involves starting with regular Paired Reading, then in a second training session moving the participants on into 'reading and thinking', which involves training and prompting tutors and tutees to ask 'increasingly intelligent questions' about what they have read together.

Paired Thinking has:

- 3 Stages: Before, During and .\fter reading
- 13 Activities (dealing with Structure, Type, Difficulty, Reader and Author Aims, Meaning, Truth, Prediction, Links, Summarise, Evaluate, Revisit, Extend).

The activities are supported by prompt sheets of questions. These are available in four levels of complexity

and difficulty to suit different pairs and provide some developmental progression. The most complex level (4) has 21 sub-categories. However, tutors are encouraged to view the prompt sheet only as a training and fallback resource, and to take the initiative to generate their own questions of high relevance to the text in use. Additionally, there are 21 Tips for Tutors, available as a brief reminder sheet and with a fuller explanation. Thanks to the four differentiated levels of prompts, young and less able readers can participate, but the top level is certainly applicable to higher ability and age ranges. At all levels, the intellectual strain on the tutor is quite considerable (so some tutors rather ruefully tell us). The cognitively effortful nature of tutoring is transparent and unquestionable. Indeed, among both researchers and practitioners in general, more interest is now focusing on the impact of being a tutor than on the value of being a tutee.

Paired Thinking provides modelling of intelligent questioning for the tutee, interactive cognitive challenge for both partners and practice in critical and analytic thinking. It applies flexibly to any reading experience shared by the pair, enables the pair to pursue their own interests and motivations and encourages critical and analytic discussion in the pair's vernacular vocabulary. Thus it includes reading, listening, thinking, feeling and communicating. It also aims to help pupils to identify, review and evaluate the values they and others hold, and to recognize how these affect thoughts and actions.

Measuring improvements in thinking skills is difficult. Paired Thinking necessitates slower progress through books than Paired Reading, because much more time is spent in Socratic discussion, and consequently reading ages might not be expected to rise as much. However, McKinstery & Topping (2001) deployed the technique on a cross-age tutoring basis in a high school, and found remarkable increases in scores on reading tests for the tutees, far beyond any normal expectations. Both staff and pupils gave positive evaluations of the process and outcomes. In terms of affective gains, tutors appeared to gain more from the implementation than tutees. Both tutors and staff thought that there had been a positive effect on the thinking skills of both tutors and tutees.

A criterion-referenced test of thinking skills in the context of reading was devised by Topping & Bryce (2001), and applied on a pre/post basis to cross-age tutoring in one primary school. One group started with paired reading then switched to paired thinking shortly after, while another group continued with PR throughout. The 'thinking' class of tutees showed significantly greater gains on the test of thinking skills than the PR-only group, although this was not true for the tutors. Further research is now in hand.

▶ WRITING

How can we make writing a thoughtful interactive process rather than a tedious mechanistic task? How can we raise writing standards? We all know of the importance of discussion, ideas generation, text organisation, drafting and editing, a sense of audience, 'publishing', reader response and opportunities for peer assessment leading to enhanced metacognitive knowledge of the writing process. However, many teachers struggle to deliver these on any regular basis; the development of writing skills across the curriculum in any consistent way is even more difficult. Routine de-contextualised writing activities emphasising superficial mechanics are still found in some classrooms.

Given this, how much promise does collaborative writing hold? Collaborative writing is intended to ease the dysfunctional anxiety of some individuals when confronted with a blank piece of paper. Indeed, it has been described as the 'key to unlocking the silences of children' – a tool for activating children's multiple voices. But collaborative writing is not a single homogeneous procedure, nor, of itself, necessarily a 'good thing', so comparison of research studies must proceed with caution. Rigorous outcome evaluations with primary school pupils are, in any event, scarce (Topping, 2001b).

A summary of the Centre's work on the specific *Paired Writing* method appeared in the SCRE Newsletter *Research in Education*, No 67, Winter 2000/2001. It focused on effects on the quality of writing and attitudes toward writing found in three research projects.

▶ SPELLING

Spelling is a curriculum area which is simultaneously neglected and controversial. Few teachers seem to enjoy teaching spelling and fewer children seem to enjoy learning it. While spelling might not be as important as reading or the creative aspects of writing, it is still very important. Despite the importance government and employers say they attach to spelling, the range of strategies, materials and methods available to teachers is probably smaller and less varied than in any other basic skills area.

Cued Spelling (CS) is to spelling what Paired Reading is to reading. It may take place with parents at home or peers in school, and is suitable for same-ability same-age reciprocal peer-tutoring as well as cross-age cross-ability fixed-role peer-tutoring. Cued Spelling is usually done three times per week for an initial 'trial' period of six weeks. Each session takes about 15 minutes. At the outset, Cued Spelling looks rather complicated. However it is a lot simpler than it looks, and it is possible to train seven-year-olds to do it in half an hour. The basic structure comprises ten Steps, four Points to Remember and two Reviews.

The Steps and Points apply to every individual target word worked upon by the pair, words which have been chosen for high interest and usefulness to the tutee (often 'collected' from other lessons for the purpose). The 'Speed Review' covers all target words for a particular session and the 'Mastery Review' covers all the target words for one week or a longer period if desired.

Cued Spelling does not presume the existence or possession of any particular spelling 'sub-skills'. It is

designed to promote the use to maximum effect of whatever skills the tutee possesses. The technique has been designed and structured to be highly interactive, and in operation presents as mutually self-governing. There is good evidence that spellers naturalistically use a great variety of strategies in a highly idiosyncratic manner, so any requirement to use a specific mnemonic strategy ubiquitously is likely to merely further inhibit an already poor speller. Work on mnemonic strategies has emphasized the importance of meaningfulness to the subject. There is also evidence that when children select their own spelling words, they tend to choose more difficult words, but are as successful as with easier words chosen by adults. Cued Spelling thus provides a framework within which the tutee can 'make sense of spelling' – but make their *own* sense of it (Topping, 2001b).

Spelling is of course conceptual as well as perceptual, and tutees need to form predictive concepts about how words work. As the interactive procedures of CS involve them in comparing and contrasting, they may organize and integrate these concepts for themselves more effectively. Thus the technique fits in well with recent trends towards individualized and self-governed learning of spelling skills.

Studies of the impact of peer-tutored Cued Spelling have found improvements in spelling test scores and in self-esteem as a speller. A study of parent-tutored Cued Spelling found Cued Spellers made 250% of the progress of a comparison group who used the Look-Cover-Write-Check strategy. A further study compared CS with traditional spelling homework – the Cued Spellers gained four times more on test scores than the comparison group. Furthermore, in an analysis of generalisation of spelling skills to free writing across the curriculum, Cued Spellers again did better than the comparison group.

The vast majority of children find it easy to learn to do Cued Spelling. After Cued Spelling, a large majority reported that they felt happier about spelling (84%–100%) and were better at self correcting (69% – 91%) and spelling tests (69%–100%). A smaller majority reported perceived generalised improvement in spelling in free writing (average 68%). Most children said they wished to continue using the technique (range 47% to 87%). Difficulties encountered by some children were finding 'good' target words (range 25%–77%) and thinking up good Cues (range 31%–47%). This highlights the need for Cued Spelling projects to emphasise these organisational aspects.

▶ CONCLUSION

Structured forms of peer-assisted and parent-assisted learning have been applied to many core skills and areas of the curriculum with considerable effectiveness and relatively low cost in professional time and resources. These often also yield social, motivational, and self-esteem benefits for both the helpers and the helped. They offer an exciting and enhanced role for professional teachers. However, it is important that teachers have access to user-friendly, flexible, durable and evidence-based methods, and some of these have been outlined above.[1] If the positive results from research studies are to be replicated in everyday practice, teachers must plan carefully and implement the methods with maximum fidelity. There are still many productive avenues for further innovation and action research by practitioners and professional researchers in this area. An additional incentive is the considerable value of such methods in other countries where resources are much scarcer than in the UK.

The development of skill in communicating information obviously requires practice in a socially interactive context – but it is asserted here that social interaction can also be a powerful and differentiated learning context for information access, processing and self-management skills, when properly structured and managed by professional teachers.

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Notes

1. A range of further resources, including practical materials, bibliographic information, and further details of the activities of the Centre for Paired Learning, are available online from: http://www.dundee.ac.uk/psychology/kjtopping/
2. A 'Parents in Education' website is under construction and will be available at: http://www.dundee.ac.uk/psychology/ParentsinEducation/

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